

WHAT IS CLAIMED IS:

1 ~~Sub 1~~ 1. A segment of human mitochondrial DNA or RNA of  
 2 between 10 and 100 bases including any one of the polymorphic  
 3 sites shown in Table 1, or the complement of the segment.

1 2. The segment of claim 1, wherein the polymorphic  
 2 form occupying the polymorphic site is listed in Table 1,  
 3 column 3.

1 3. The segment of claim 1, wherein the polymorphic  
 2 form occupying the polymorphic site is an alternative form  
 3 listed in Table 1, column 2, or 4-11.

1 ~~Sub 2~~ 4. An allele-specific oligonucleotide that  
 2 hybridizes to a segment of human mitochondrial nucleic acid or  
 3 its complement including a polymorphic site shown in Table 1,  
 4 column 1.

1 5. The allele-specific oligonucleotide of claim 10  
 2 that is probe.

1 ~~Sub 3~~ 6. The allele-specific oligonucleotide of claim  
 2 10, wherein a central position of the probe aligns with the  
 3 polymorphic site of the fragment.

1 7. The allele-specific oligonucleotide of claim 10  
 2 that is a primer.

1 ~~Sub 4~~ 8. The allele-specific oligonucleotide of claim  
 2 13, wherein the 3' end of the primer aligns with the  
 3 polymorphic site of the fragment.

1 9. An isolated nucleic acid comprising a segment  
 2 of the human mitochondrial sequence described by Anderson et  
 3 al., Nature 290, 457-465 (1981), or the complement thereof,  
 4 including a polymorphic site shown in Table 1, column 1,  
 5 wherein the polymorphic site within the segment is occupied by

654450 923333

Sub 1  
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1           10. A method of analyzing a nucleic acid,  
2 comprising:  
3           obtaining the nucleic acid from an individual; and  
4           determining a base occupying any one of the polymorphic  
5 sites shown in Table 1.

add 24

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